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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,890	01/25/2002	Joo-sun Hong	Q66377	5435

7590 12/18/2006

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EXAMINER	
JONES, HEATHER RAE	

ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 12/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,890	HONG, JOO-SUN	
	Examiner	Art Unit	
	Heather R. Jones	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 April 2002 and 29 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed September 29, 2006 have been fully considered but they are not persuasive. The Applicant argues that Takihara does not disclose or suggest at least, "wherein the main board is mounted on the modular television," as recited in claim 1 and that the Examiner believes that the PC module of Fig. 3 corresponds to the claimed hard disk module. The Examiner respectfully disagrees. The Examiner believes that the PC module of Fig. 3 corresponds to the main board represented as reference character "1" in Fig. 1 and that the hard disk module is reference character "2" in Fig. 1. Fig. 3 is a blown-up interpretation of the PC module (1) depicted in Fig. 1, which is what the Examiner is considering the main board. Therefore, with those interpretations Takihara meets the claim limitations.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Takihara (U.S. Patent 6,941,387).

Regarding claim **1**, Takihara discloses a hard disk module for a modular television including: an interface portion (357) for receiving and transmitting data from and to a main board (341) as a transmission stream, wherein the main board (341) is mounted on the modular television (Figs. 1 and 3); a memory (122 and 123) having a program stored therein for controlling the entire components connected to a bus disposed inside the hard disk module (2) (Fig. 5, col. 10, lines 5-8); a recording and reproducing portion for recording the data in a hard disk (124) and reproducing the data recorded in the hard disk (124)(col. 10, lines 4-18); and a control portion (121) for controlling the recording and reproducing such that the recording and reproducing portion records in the hard disk (124) the data provided from the main board (341) through the interface (357) when in a recording mode, and when in a reproducing mode, reproduces the data recorded in the hard disk (124), and provides the reproduced data to the main board (341) through the interface (357) (col. 10, lines 4-18).

Regarding claim **2**, Takihara discloses all the limitations as previously discussed with respect to claim 1 including that the recording and reproducing portion includes a buffer (373) for sequentially storing a predetermined amount of data therein, wherein the predetermined amount of data is received from and transmitted to the interface portion (357) (Figs. 3 and 4; col. 9, lines 20-24 and 54-59).

Regarding claim **3**, Takihara discloses all the limitations as previously discussed with respect to claims 1 and 2 including that the interface portion (357)

uses an Institute of Electrical & Electronics Engineers (IEEE) 1394 bus (col. 7, lines 50-59).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takihara (U.S. Patent 6,941,387) in view of Iizuka et al. (U.S. Patent 5,974,015).

Regarding claim **4**, Takihara discloses a recording method of a hard disk module for a modular television including the step of storing data in a buffer (373) in a form of a transmission stream, wherein the data is received from the main board (341) mounted on the modular television via an interface portion (357) (Figs. 3 and 4; col. 9, lines 20-24 and 54-59). However, Takihara fails to disclose the steps of transmitting an interrupt request (IRQ) signal to a control portion via a recording and reproducing portion when a predetermined amount of data is stored in the buffer; and transmitting and storing the predetermined amount of data which is stored in the buffer, to a hard disk through the recording and reproducing portion in accordance with a direct memory access (DMA) method when recording data to the hard disk module.

Referring to the Iizuka et al. reference, Iizuka et al. discloses recording data to a hard disk module from a CPU section comprising the steps of transmitting an interrupt request (IRQ) signal to a control portion via a recording and reproducing portion when a predetermined amount of data is stored in the buffer; and transmitting and storing the predetermined amount of data which is stored in the buffer, to a hard disk through the recording and reproducing portion in accordance with a direct memory access (DMA) method (col. 11, lines 20-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the interrupt routine and the DMA method to record data to a hard disk as disclosed by Iizuka et al. with the hard disk module in a modular television as disclosed by Takihara in order to efficiently transmit data to and from a hard disk to the main board without losing any data.

Regarding claim **5**, Takihara in view of Iizuka et al. discloses all the limitations as previously discussed with respect to claim 4 as well as further disclosing the step of transmitting a DMA command to the recording and reproducing portion when the control portion receives the IRQ signal (Iizuka et al.: Fig. 3; col. 14, lines 36-48). However, Takihara in view of Iizuka et al. fails to disclose initializing the hard disk by the control portion when the control portion receives the IRQ signal. Official Notice is taken that is well known to initialize the hard disk when the control portion receives an IRQ signal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was

made to have initialized the hard disk when the IRQ was received instead of before the recording process begins because up until the point where the IRQ signal is sent the hard disk is not needed and therefore it would make sense to initialize it when the hard disk is needed and will be used because the hard disk may never be needed and it would therefore save the recording step a process by not having to initialize the disk if its not going to be used.

Regarding claim **6**, Takihara discloses a reproducing method of a hard disk module for a modular television including the step of transmitting the data to the main board (341) through an interface portion (357). However, Takihara fails to disclose the steps of initializing a hard disk by a control portion and transmitting a direct memory access (DMA) command to a recording and reproducing portion; receiving data from the hard disk through the recording and reproducing portion in accordance with the DMA command and then storing the data in a buffer; and transmitting an interrupt request (IRQ) signal to the control portion through the recording and reproducing portion when a preferred amount of data is stored in the buffer when reproducing data form a hard disk module, wherein the main board is mounted on the modular television (Fig. 1).

Referring to the Iizuka et al. reference, Iizuka et al. discloses reproducing data from a hard disk module to a CPU section comprising the steps of initializing a hard disk by a control portion and transmitting a direct memory access (DMA) command to a recording and reproducing portion; receiving data from the hard disk through the recording and reproducing portion in accordance with the DMA

command and then storing the data in a buffer; and transmitting an interrupt request (IRQ) signal to the control portion through the recording and reproducing portion when a preferred amount of data is stored in the buffer (Fig. 3; col. 11, lines 20-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the interrupt routine and the DMA method to reproduce data from a hard disk as disclosed by Iizuka et al. with the hard disk module in a modular television as disclosed by Takihara in order to efficiently transmit data to and from a hard disk to the main board without losing any data.

Regarding claims **7** and **8**, these are computer-readable recording medium for storing program codes claims corresponding to the method claims 4 and 5. Therefore, claims 7 and 8 are analyzed and rejected as previously discussed with respect to claims 4 and 5.

Regarding claim **9**, this is a computer-readable recording medium for storing program codes claim corresponding to the method claim 6. Therefore, claim 9 is analyzed and rejected as previously discussed with respect to claim 6.

Regarding claims **10** and **11**, these are apparatus claims corresponding to the method claims 4 and 5. Therefore, claims 10 and 11 are analyzed and rejected as previously discussed with respect to claims 4 and 5.

Regarding claim **12**, this is a computer-readable recording medium for storing program codes claim corresponding to the method claim 6. Therefore,

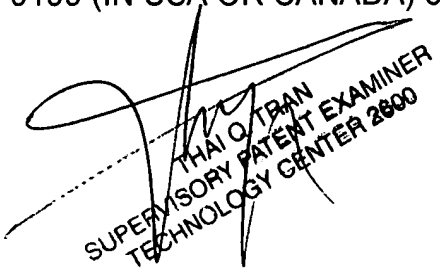
claim 12 is analyzed and rejected as previously discussed with respect to claim 6.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather R. Jones whose telephone number is 571-272-7368. The examiner can normally be reached on Mon. - Thurs.: 7:00 am - 4:30 pm, and every other Fri.: 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Heather R Jones
Examiner
Art Unit 2621